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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,135	01/27/2006	Gordon Calundann	3799.1014-000	1711

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EXAMINER

HU, HENRY S

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

03/25/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/566,135

**Applicant(s)**

CALUNDANN ET AL.

**Examiner**

HENRY S. HU

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Pre-Amendment of January 27, 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-27 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)  
Paper No(s)/Mail Date 1-27-2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Individual Patent Application
- 6) ☐ Other: \_\_\_\_\_

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1. USPTO has received **Pre-Amendment** and **one** IDS (1 page) so far. This Application is a **371/PCT/EP04/08229**. With such pre-amendment, Claims 24-26 are amended; new Claim 27 is added, while no claim is cancelled. To be specific, **Claim 25** is amended in **two** ways including: (A) to eliminate improper multiple claim dependency, and (B) to incorporate the process of making the membrane from parent Claim 1. Other **Claims 24 and 26** are amended accordingly. **Claims 1-27 are pending now** with **two** independent claims (Claim 1 and Claim 22). An action follows.

#### **DETAILED ACTION**

##### ***Election/Restrictions***

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1, this is based on the preliminary search done by the examiner as well as by examining the references cited in international search report and IDS filed by Applicants.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted as following: It is noted that **two independent claims are marked with an underline**.

1. **Claims 1-21**, drawn to **a proton-conducting polymer membrane** based on polyazoles, which are obtained by a seven-step process as specified. (Product by process claim)

II. Claims 22-23, drawn to an electrode having a proton-conducting polymer coating based on polyazoles, which are obtained by a seven-step process as specified in Group I.

III. Claims 24-27, drawn to a membrane-electrode unit (Claims 24-25) and its fuel cell (Claims 26-27). Said membrane electrode unit comprises at least one electrode and at least one membrane. Said membrane is based on polyazoles, which are obtained by a seven-step process as specified in Group I.

3. Where the group of inventions is claimed in one and the same international application, the requirement for unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression “special technical features” shall mean those technical features that define a contribution which each of the claimed inventions considered as a whole, makes over the prior art. The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, although they share the special technical feature, this special technical feature does not define a contribution over the prior art for the following reasons:

4. In view of Examiner’s own prior art search, search report for Applicants’ priority document 371/PCT/EP04/08229, and the references or articles cited in one IDS filed so far by

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Applicants, **Claims 1-27** is either obvious or anticipated by following: **US 6,264,857 B1 to Kreuer et al., US 6,248,469 B1 to Formato et al., and US 7,235,320 B2 to Calundann et al.,** each individually or in combination. In summary, these three groups have no common features in the preparation as well as its application since they are structurally different. The scope of the claims, i.e., the metes and boundaries are distinct. Accordingly, the special technical feature linking the inventions, the proton-conducting polymer membrane based on polyazoles as disclosed on Group I does not provide a contribution over the prior art, and no single general inventive concept exists. Therefore the restriction is appropriate.

5. With respect to the fact that “both groups are structurally different each other”, Group I is drawn to a proton-conducting polymer membrane as well as it is related to product by process claim, Group II is drawn to an electrode, while Group III is drawn to a membrane-electrode unit and its fuel cell. Although the subject matter from each group may comprise the same or at least similar polyazoles and/or polymer membranes, its structure, function and application are indeed different. It is noted that Group III requires using at least one electrode and at least one membrane. Said membrane is based on polyazoles, which are obtained by a seven-step process as specified in Group I. To be specific, Claim 24 may use any electrode as long as such an electrode is compatible with the membrane based on polyazoles. Polyazole polymers prepared by process other than the process as disclosed in Group I may be also applied. Groups I, II and III are thereby not functionally equivalent and interchangeable.

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6. Because these inventions are distinct for the reasons given above and the search required for each group is not required for other groups have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

7. It is noted that no phone call was made to **Steven G. Davis (registration # 39,652, tel: 978 341-0036)** by the examiner due to the complexity on multiple (three) distinct groups along with two independent claims. It is noted that Group III involves a combination of two different subject matters including membrane-electrode unit and fuel cell. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### *Conclusion*

9. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu whose telephone number is (571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Vasu Jagannathan, can be reached on (571) 272-1119. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300 for all regular communications. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Peter D. Mulcahy/  
Primary Examiner, Art Unit 1796

/Henry S. Hu/  
Examiner, Art Unit 1796

March 19, 2009